	IPE				<u> </u>	Sheet1	of _	13	
orm PTO-		J.S. DEPARTME	INT OF COMMERCE	ATITY, DOCKET NO.		SERIAL NO.			
.Ev. 0-03)	NE 2 7 2001		•	015685.P	027	09/	676,88	B	
INFORM		/ SURE CI	ITATION	APPLICANT	Craig H. I	Barratt			
INFORK	TRADE	SURE C	ITATION	FILING DATE		GROUP	-		-
. (Use several sheets i	f necessary	v) ·	09/29/0	10	. 2	1681	667	
		U.S.	PATENT DO	CUMENTS			_		
EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS		OPRIATE	
211	3,704,465	11/28/72	Masak et al	l .		_		AUG CENEL 200	
	3,774,209	11/20/73	Fleming et	al.		· —	leg.		杂
	3,798,645	03/19/74	Baurle et a].	<u> </u>	_	10		ر کر
	3,852,749	12/03/74	Kohler			_	<u>'</u>	S. S.	ُ سے
	3,946,385	03/23/76	Ewen					lex 2	8
	4,005,379	01/25/77	Lerner			_			3
	4,035,746	07/12/77	Covington	Jr.		_			
	4,085,319	04/18/78	Deitz et al.			7			
	4,128,740	12/05/78	Graziano	•	-	_			
	4,263,568	04/21/81	Nemit						
	4,316,191	02/16/82	Sawatari et	al.		_			
		FOREIG	N PATENT D	OCUMENTS					
	DOCUMENT NUMBER	DATE	C	DUNTRY	CLASS	SUBCLASS	TRANS! YES	ATION NO	
w 1	2 237 706 A	5/8/91	United King	gdom					
	2 295 524 A	5/29/96	United King	gdom					
V	2 313 261 A	11/19/97	United King	gdom		_		\Box	
	OTHER DOCUME	NTS (Inclu	ding Author,	Title, Date, Perti	nent Pages	s, Etc.)			
					· · · · · · · · · · · · · · · · · · ·				
									•
				. ·					
l ca	gee, "Blind Separat onstant Modulus Be								
	ol. 2, pp. 1-12.		`.		.,i				
al at	schied et al., "An Al High Data Rates", 14-813.								
			- ·						
EXAMINER			DA	TE CONSIDERE	ED ,	1			1

		OIPE				S	heet2	of	13	
REV. 8-		AUG 2 7 2001	AS. DEPARTME RATENT AND TO	ENT OF COMMERCE RADEMARK OFFICE	ATTY. DOCKET NO. 015685.P02	27	SERIAL NO.	676,888	В	
INFO	RMA	ATION BIBELO	: SURF CI	TATION	APPLICANT (Craig H. I	Barratt			
					FILING DATE		GROUP			
	(Us	se several sheets i			09/29/00		·	681	3667	
	1	r 	U.S.	PATENT DO	CUMENTS		, <u>.</u>	·		
EXAMINER INITIAL		DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS		DATE OPRIATE	
aul		4,375,622	03/01/83	Hollingswo	orth et al.	_				
		4,434,505	02/28/84	Gutleber				7e ⁽	1	
		4,475,010	10/02/84	Huensch et	al.	_	-	Mol	E C	
		4,626,859	12/02/86	Stansfield			_	92	29	
		4,639,732	01/27/87	Acoraci et	al.					
		4,639,914	01/27/87	Winters			_		Me 1- 3 CM	
		4,658,096	04/14/87	West, Jr. et	al.	_	_			
		4,737,794	04/12/88	Jones				,		
		4,737,975	04/12/88	Shafer			_			
		4,742,356	05/03/88	Kuipers			-			
V		4,750,147	06/07/88	Roy, III et a	l. ·		-			
	-		FOREIG	N PATENT D	OCUMENTS					
-		DOCUMENT NUMBER	DATE	C	DUNTRY	CLASS	SUBCLASS	TRANSI YES	ATION NO	
aul:		0 639 035 A1	2/15/95	EPO		_				
		0 713 261 A1	5/22/96	EPO		_				
		0 777 400 A2	6/4/97	EPO		_	_			
		OTHER DOCUME	NTS (Inclu	ding Author,	Title, Date, Pertine	ent Pages	s, Etc.)			
·/	Emm	ka "Gunahuanina	tion Cubo	watama. Ana	halo and Booler		Digital			
al		iks, "Synchroniza imunications Sat					Digital			
,	Frie	dlander, "Direction	n Finding	Using an In	ternolated Array"	<i>' 4/3/</i> 90	Internatio	nal		
		ference on Acous								
$\dashv \dashv$	Frie	dlander et al., "Di	rection Fi	ndina for Wi	deband Signals I	Jsing an	Interpola	ted Arr	rav".	
		I, IEEE Publicatio				g = !!			'	
EXAMIN	ER	1/1/1		DA	TE CONSIDERED	7	1	-		
	·	tial if citation considere			OL	129 /	/ 05	- •		

	OIPE				S	heet3	of13
orm PTO REV. 8-83		O.S. DEPARTME PATENT AND TO	ENT OF COMMERCE RADEMARK OFFICE	ATTY. DOCKET NO. 015685.PC	027	SERIAL NO. 09/(676,888 ·
•	The state of the s			APPLICANT			
INFOR	MATKON POSE LO	SURE CI	FILING DATE GROUP 109/29/00 -2681 9/				
	(Use several sheets i	f necessain					E81 000 7
			PATENT DO				681 966 7
EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS	FILING DATE
941	4,775,997	10/04/88	West Jr. et	al.	1-		
	4,796,291	01/03/89	Makino		-		۸
	4,827,395	05/02/89	Anders et a	il.			chmc FL
	4,829,554	05/09/89	Barnes et a	i l.		_	Ngo C
	4,837,800	06/06/89	Freeburg e	t al.		_	Achmoosy Genter 26
	4,855,748	08/08/89	Brandao et	al.		_	AUS 1. Dente 2600
	4,910,794	03/20/90	Mahany		-	-	
	4,922,517	05/01/90	West, Jr. et	al.			
	4,926,186	05/15/90	Kelly et al.			_	
	4,940,963	07/10/90	Gutman et	al.			
7	4,947,452	08/07/90	Hattori et a	i.			
		FOREIG	N PATENT D	OCUMENTS		<u> </u>	
	DOCUMENT NUMBER	DATE	C	OUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
du	95/34103	12/14/95	wo	·			
	98/01963	1/15/98	wo	•	1		
1	98/17037	4/23/98	wo				
	OTHER DOCUME	NTS (Inclu	ding Author,	Title, Date, Pertin	ent Pages	s, Etc.)	
	Sanz et al., "A Data-I ransactions on Con						, IEEE
1 11	ltis et al., "A Digital I	OS Spread	-Spectrum R	leceiver With Jo	int Chanr	nel and Do	ppler Shift
	sitmation", IEEE Tra						
	<i>p</i> .	1		· ·			
EXAMINE	R (//	//	DA	TE CONSIDERE	D /	7	
	/ 2./ /	4/			101	11/1	

	OIPE				A S	heet 4	of_ 1	13
Form PTO-17 (REV. 8-83)	~ (1)	O.S. DEPARTME PATENT AND TR	NT OF COMMERCE PADEMARK OFFICE	ATTY, DOCKET NO. 015685.P02		SERIAL NO.	 576,888	
\.	ŠE ZOVENIE O		TATIÓN	APPLICANT	Craig H. I	Barratt		
INFORM	AMOMORECLO	SURE CI	IATION	FILING DATE	714.9 1	GROUP		
(L	Jse several sheets it			09/29/00		-	681 26	67
		U.S.	PATENT DO	CUMENTS				
EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS	FILING D	
aul	4,955,082	09/04/90	Hattori et a	l.				
	4,965,732	10/23/90	Roy, III et a	il.	_		7e ⁵	
	4,965,849	10/23/90	Kunihiro			-	mol	DO
	4,965,850	10/23/90	Schloemer			_	8	20
	4,972,151	11/20/90	Rosen			_	Technology.	The last
	4,989,204	01/29/91	Shimizu et	al.		_		Ġ
	5,041,833	08/20/91	Weinberg			_		
	5,052,799	10/01/91	Sasser et a	ıl.		_		
	5,093,924	03/03/92	Toshiyuki	et al.		-		
	5,103,459	04/07/92	Gilhousen	et al.		_		
\forall	5,109,535	04/28/92	Kume et al	•				
	_ t ·	FOREIG	N PATENT I	OCUMENTS		†		
	DOCUMENT NUMBER	DATE	С	OUNTRY	CLASS	SUBCLASS	TRANSLA'	NO
all	98/17071	4/23/98	wo		-			
	•							
	OTHER DOCUME	NTS (Inclu	ding Author,	Title, Date, Pertine	ent Pages	s, Etc.)		
		-						
Did	e et al., " Decision gital Communicatio						r", 1994	
a1 "								
	e et al., " Decision gital Communication						/", 1994	
1.11	ndell et al., "Appli	cations of	the Constan	t Modulus Adapt	ive Bean	nformer to	Consta	nt
) / an	d Non-Constant M gnals, Systems, an	odulus Sig	nals", Proc	eedings, 1998 As	ilomar C			
EXAMINER				TE CONSIDERED		1 -		
	JOVIM				1/92	105		
EXAMINER: I itation if not in	Initial if citation considers conformance and not co	ed, whether of onsidered. In	r not citation is it clude copy of th	n conformance with MF is form with next comm	rep 609; D' runication t	raw line throi o applicant.	ugn	

DTO-	0, 5			,		heet5	of _	13
rm PTO-1 EV. 8-83)		O.S. DEPARTME PATENT AND TO	NT OF COMMERCE RADEMARK OFFICE	ATTY, DOCKET NO. 015685.F		SERIAL NO. 09/ 6	576,888	8
. \	Est and		•	APPLICANT	····			
INFORM	ATTEMPS CLO	SURE CI	TATION	57.110.5.4	Craig H. E			
, (ι	Jse several sheets ii	necessary	<i>(</i>)	FILING DATE 09/29/0	00	GROUP	681 20	667
, ,<u>, , , , , , , , , , , , , , , , , ,</u>		U.S.	PATENT DO	CUMENTS		-		
KAMINER NITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS		DATE OPRIATE
1	5,124,697	06/23/92	Moore		_	· ·		
,	5,142,253	08/25/92	Maliavarpu	et al.				_
	5,159,593	10/27/92	D'Amico et	al.		_	1eg	
	5,255,210	10/19/93	Gardner et	al.		_	Mole	NG
	5,260,968	11/09/93	Gardner et	al.		_	8	30 Kg
	5,262,789	11/16/93	Silverstein					AUG " Center 2500
	5,274,844	12/28/93	Harrison et	al.				O)
	5,283,540	02/01/94	Myer					
	5,299,148	03/29/94	Gardner et	al.				
	5,335,249	08/02/94	Krueger et	al.		_		
V	5,345,596	09/06/94	Buchenho	mer et al.				-
		FOREIG	N PATENT [OCUMENTS				
	DOCUMENT NUMBER	DATE	С	OUNTRY	CLASS	SUBCLASS	YES	NO
TV	7-170548	4/7/95	Japan	******				х
	OTHER DOCUME	NTS (inclu	iding Author.	Title, Date, Pert	tinent Pages	s. Etc.)		
			. •	• • •		· ·		
	thamed et al., "Dire							
	adley Dept. of Election 3.8, pp. 64-71		inerring, Mo	bile and Portar	ole Kadio K	esearcn (∍roup,	
) va	nder Veen et al., "/	Constan	t Modulus F	actorization Te	chnique fo	r Smart A	ntenna	
. Ap	plications in Mobi	le Commu	nications", S	SPIE 1994 "Adv	vanced Sig	nal Proce		~
	gorithms, Architec							
		ive Algor	ithms for Es					
Ta Re	lwar et al., "Recurs	ina Array"	, Proc. Fifth	Annual IEEE D)ual Use Te	cunologi	es and	
Ta Re Ap	ceived at an Anter oplications Confere	ina Array"				/	es and	<u> </u>
Ta Re	ceived at an Anter oplications Confere	ina Array"		Annual IEEE D		Connologie	es and 	

DOCUMENT NUMBER DATE NAME CLASS SUBCLASS FAPPROPRIA 5,361,303 11/01/94 Eatwell	(Use sev	eral sheets	if necessary	y)	09/29/0 CUMENTS	00	GROUP	681 2(GC 7
U.S. PATENT DOCUMENTS FILING DATE FAPPROPRI CLASS SUBCLASS FILING DATE FAPPROPRI 5,361,303 11/01/94 Eatwell 5,367,559 11/22/94 Kay et al. 5,379,320 01/03/95 Fernandes et al. 5,387,915 02/07/95 Moussa et al. 5,423,072 06/06/95 Iwashita et al. 5,430,760 07/04/95 Dent 5,440,281 08/08/95 Wey et al. 5,440,281 09/05/95 Knudsen 5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. FOREIGN PATENT DOCUMENTS	CAMINER DOCU	MENT NUMBER	_ U.S.		09/29/0 CUMENTS	00		681 2 (<u>sc7</u>
U.S. PATENT DOCUMENTS DOCUMENT NUMBER DATE NAME CLASS SUBCLASS FILING DATE FAPPROPRI S,361,303 11/01/94 Eatwell	CAMINER DOCU	MENT NUMBER	_ U.S.						/ جار
	DOCU		DATE		NAME				
5,367,559 11/22/94 Kay et al. 5,379,320 01/03/95 Fernandes et al. 5,387,915 02/07/95 Moussa et al. 5,423,072 06/06/95 Iwashita et al. 5,430,760 07/04/95 Dent 5,440,281 08/08/95 Wey et al. 5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. FOREIGN PATENT DOCUMENTS		61,303	<u> </u>			CLASS	SUBCLASS		
5,379,320 01/03/95 Fernandes et al. 5,387,915 02/07/95 Moussa et al. 5,423,072 06/06/95 Iwashita et al. 5,430,760 07/04/95 Dent 5,440,281 08/08/95 Wey et al. 5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. FOREIGN PATENT DOCUMENTS	5,	-	11/01/94	Eatwell		. —)		
5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. 5,471,647 11/28/95 Gerlach et al. FOREIGN PATENT DOCUMENTS	1 1 1	67,559	11/22/94	Kay et al.					
5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. 5,471,647 11/28/95 Gerlach et al. FOREIGN PATENT DOCUMENTS	5,	79,320	01/03/95	Fernandes	et al.		,	1ect	
5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. 5,471,647 11/28/95 Gerlach et al. FOREIGN PATENT DOCUMENTS	5,3	87,915	02/07/95	Moussa et	al.		-	Molor	NG
5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. 5,471,647 11/28/95 Gerlach et al. FOREIGN PATENT DOCUMENTS	5,	123,072	06/06/95	lwashita et	al.		_	A Ce	2
5,448,621 09/05/95 Knudsen 5,457,812 10/10/95 Siira et al. 5,465,399 11/07/95 Oberholtzer et al. 5,471,647 11/28/95 Gerlach et al. FOREIGN PATENT DOCUMENTS	5,	130,760	07/04/95	Dent			ı	8	100 181 28
5,457,812 10/10/95 Siira et al	5,	140,281	08/08/95	Wey et al.)		8
5,465,399 11/07/95 Oberholtzer et al. 5,471,647 11/28/95 Gerlach et al. FOREIGN PATENT DOCUMENTS	5,	148,621	09/05/95	Knudsen					
5,471,647 11/28/95 Gerlach et al. FOREIGN PATENT DOCUMENTS	5,	157,812	10/10/95	Siira et al.					
FOREIGN PATENT DOCUMENTS	5,	165,399	11/07/95	Oberholtze	r et al.		-		
	5,	171,647	11/28/95	Gerlach et	al.)		
T0.4.101.4710			FOREIG	N PATENT D	OCUMENTS				
DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS	DOCUM	ENT NUMBER	DATE	C	DUNTRY	CLASS	SUBCLASS	TRANSL	ATION NO
	<i>:</i>				•				
							.		
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)	OTUE	POCUME	ENTS (Inclu	ding Author	Title Date Porti	inant Pagas			

INFORM	ATION DISCLO	SURE C	ITATION	FILING DATE	Craig H. I	GROUP		
· (L	lse several sheets		· · · · · · · · · · · · · · · · · · ·	09/29/	/00		68120	667
		U.S.	PATENT DO	CUMENTS				
EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS		OPRIATE
au l	5,475,864	12/12/95	Hamabe					
1	5,475,868	12/12/95	Duque-Ant	on et al.				
	5,497,505	03/05/96	Koohgoli e	t al.			(ec)	P
	5,515,378	05/07/96	Roy, III et a	ıl.			1 8	E 4
	5,530,449	06/25/96	Wachs et a	1.		_		AUG Center 200
	5,530,917	06/25/96	Andersson	et al.	<u>:</u>	_		- K. 72
	5,532,706	07/02/96	Reinhardt	et al.				
	5,537,438	06/16/96	Mourot et a	al.				
	5,543,801	08/06/96	Shawyer	· · · · · · · · · · · · · · · · · · ·				· .
1,1	5,546,090	08/13/96	Roy, III et a	ıl.				
V	5,548,813	08/20/96	Charas et a	al.				
		FOREIG	N PATENT (OCUMENTS				ŀ
	DOCUMENT NUMBER	DATE	С	OUNTRY	CLASS	SUBCLASS	YES	NO
						•		
			:					
	OTHER DOCUM	ENTS (Inclu	ıding Author.	Title, Date, Per	rtinent Pages	s, Etc.)	<u>.</u>	
							4	
	shid-Farrokhi et a nference on Infor						ystems ·	•
Ce	shid-Farrokhi et a Ilular Systems", F 7, pp. 647-651.							
	shid-Farrokhi et a mmunications Le					ssignmen	ıt", IEE	E

orm PTO- REV. 8-83)		U.S. DEPARTME PATENT AND TO	ENT OF COMMERCE RADEMARK OFFICE	ATTY. DOCKET NO. 015685.P0		SERIAL NO. 09/ (676,888	3
INFORM	MATICON DISCELO	SURE C	ITATION	APPLICANT .	Craig H. E	Barratt		
	Use several sheets	if necessary	y) .	FILING DATE 09/29/00	,	GROUP	681 20	267
***		U.S.	PATENT DO	CUMENTS				
EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS		DATE OPRIATE
,					·	_		
RUI	5,555,445	09/10/96	Booth					7.
	5,557,657	09/17/96	Barnett	······································			<u></u>	-
	5,565,873	10/15/96	Dean				3	P
	5,566,209	10/15/96	Forssen et	al.			Technology Genter 2600	AG 2
	_ 5,576,717	11/19/96	Searle et al				cente	9 2
	5,592,490	01/07/97	Barratt et a	ıl.			260	2001
	5,596,625	01/21/97	LeBlanc			.:~	-	·
	5,603,082	02/11/97	Hamabe		_	_		
	5,603,089	02/11/97	Searle et a	l.		_		
V.	5,606,729	02/25/97	D'Amico et	al.		_	·	
		FOREIG	N PATENT (OCUMENTS		· 		,
	DOCUMENT NUMBER	DATE	. с	OUNTRY	CLASS	SUBCLASS	TRANSI	ATION
		<u> </u>						
		1	<u> </u>	Title Dete Deti		. 54- \	!	
	OTHER DOCUME	EN 13 (INCIU	iullig Auuloi,	riue, Date, Perun	ent rayes	, E(C.)	,	
1 1 1 1 1 1 1 1	ashid-Farrokhi et a etworks", Conferer							reless
	omputers, Vol. 1, 1			iai Comerence (ni Signais	s, System	s, anu	
					<u> </u>			
al s	widlehurst et al., "/ ignal Processing, \	Analysis of /ol. 43, No.	a Decision. 12, 12/95, p	Directed Beamfo p. 2920-2927.	rmer", IE	EE Trans	actions	s on
EXAMINE	\ \ \ \ \	: /	DA	TE CONSIDERE	D /	1		
	/4/1/				09/0	10/01		

	OIPE VO					A S	heet 9	of _	13
orm PTO-1 REV. 8-83)	-	J.S. DEPARTME PATENT AND T	INT OF COMMERCE RADEMARK OFFICE	AFTY. DOCK	ET NO.		SERIAL NO.	<u> </u>	
INFORM	IATIONE ELO	, SURE C	ITATION	APPLICANT	C	raig H. E	Barratt		
				FILING DATE		Ī	GROUP		
((Jse several sheets	····		<u> </u>	9/29/00		2	681 2	GG 7
		U.S.	PATENT DO	CUMENT	S 				·
XAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME		CLASS	SUBCLASS		DATE OPRIATE
20/	5,615,409	03/25/97	Forssen et	al.					
	5,621,752	04/15/97	Antonio et	al.					
	5,625,885	04/29/97	Nakazawa	et al.					
	5,638,375	06/10/97	Dettro et al	l.			-chi	P	出
	5,649,287	07/15/97	Forssen et	al.				ANG 6	o n
	5,673,291	09/30/97	Dent		•	<u>.</u>		cente	ک و ا یم
	5,675,581	10/7/97	Soliman					260	3
	5,678,188	10/14/97	Hisamura					8	
+ + -	5,684,836	11/04/97	Nagayasu (et al.			_		<u>• </u>
	5,689,219	11/18/97	Piirainen		· · ·				
$\sqrt{}$	5,689,502	11/18/97	Scott						
		FOREIG	N PATENT D	OCUMEN	ITS .				
	DOCUMENT NUMBER	DATE	C	OUNTRY		CLASS	SUBCLASS	TRANS	↓
	· · · · · · · · · · · · · · · · · · ·							YES	NO
									\vdash
		<u> </u>			•	·	<u> </u>		<u> </u>
•	OTHER DOCUME	ENTS (Inclu	ding Author,	Title, Date	, Pertine	nt Pages	, Etc.)		
	<u> </u>							·	
						•			٠
US	98/25364, PCT Se	arch Repo	rt, 05/11/99.						
iu									
	·	1							
XAMINER	1	1.	DA	TE CONS	IDERED	190	1		
	nitial if citation consider			· · ·	- V/	<u>~ ^ /</u>	01		

	OIPE				A S	heet10)of	13
Form PTO-1 (REV. 8-83)	449	PATENT AND TO	ENT OF COMMERCE RADEMARK OFFICE	ATTY. DOCKET NO. 015685.P0	27	SERIAL NO.	676,88	3
INFORM	AA HOU, DISCEC	; ISURE CI	ITATION	APPLICANT	Craig H.	Barratt		
	Use several sheets			FILING DATE 09/29/00		GROUP .	681 2	CC1
·			PATENT DO	CUMENTS				
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS	FILING IF APPR	DATE OPRIATE
orl	5,694,416	12/02/97	Johnson		_			
1	5 700 070	02/40/08	Fradish 44					
al	5,726,978	03/10/98	Frodigh et				Techno	-
9/1	5,742,904	04/21/98	Pinder et a	ıl.	_	_	nology	
all	5,745,858	04/28/98	Sato et al.		-	_	wlogy Center 2600	292
		,					r 260	2001
النه	5,752,165	05/12/98	Hokkanen				. 0	
					<u> </u>			
α	5,809,009	09/15/98	Matsuoka					
all	5,809,019	09/15/98	Ichihara et	<u>-</u>			<u> </u>	
· · · · · · · · · · · · · · · · · · ·		FOREIG	SN PATENT (DOCUMENTS		1	TRANS	ATION
	DOCUMENT NUMBER	DATE	C	OUNTRY	CLASS	SUBCLASS	YES	NO
	· · · · · · · · · · · · · · · · · · ·							
			·		ļ			ļ
					<u> </u>	<u> </u>		<u> </u>
	OTHER DOCUM	ENTS (Inclu	ıding Author,	Title, Date, Pertino	ent Pages	s, Etc.)		
	•			· , ,				
	•							•
-	, 0			· · · · · · · · · · · · · · · · · · ·				
EXAMINER	<u> </u>		Ind	ATE CONSIDEREI	D 4			
	/ AW M			09/2	2/0	5	-	
*EXAMINER: citation if not in	Initial if citation consider n conformance and not c	red, whether o considered. In	or not citation is include copy of the	n conformance with Milis form with next comm	PEP 609; D nunication t	raw line thro o applicant.	ugh	

	\0\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				<u> </u>	heet11	of13
Form PT (REV. 8-		S. DEPARTME	NT OF COMMERCE RADEMARK OFFICE	ATTY, DOCKET NO. 015685.P02	27	SERIAL NO.	676,888
	RMATION BISCLO	;		APPLICANT		·	
INFO	RMATION DISCLO	SURE C	ITATION		Craig H. I		
	· (Use several sheets	if necessar	y)	99/29/00		GROUP	681 2GG
		U.S.	PATENT DO	CUMENTS			
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
owl	5,818,918	10/06/98	Fujii		<u></u>		
	5,819,182	10/06/98	Gardner et	al.			
	5,825,762	10/20/98	Kamin, Jr.	et al.		Tec	
	5,828,658	10/27/98	Ottersten e	et al.		1	品
	5,845,212	12/01/98	Tanaka			chinology Center 2600	CE G 2
	5,867,123	02/02/99	Geyh et al.			enter	S VE
	5,884,148	03/16/99	Bilgic et al			2600	S E
·	5,887,038	03/23/99	Golden .			_	
	5,905,721	05/18/99	Liu et al.				
	5,909,470	06/01/99	Barratt et a	il. ·		_	
· *	5,914,946	06/22/99	Avidor et a	l .		_	
		FOREIG	ON PATENT D	DOCUMENTS	•		•
	DOCUMENT NUMBER	DATE	C	OUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	•						
			-				
	OTHER DOCUME	NTS (Inclu	ding Author,	Title, Date, Pertine	ent Pages	s, Etc.)	
					•	•	,
	1 11						
EXAMIN	ER		DA	TE CONSIDERED	/ /	0, -	
	R: Initial if citation consider			conformance with MF	EP 609; D		ıgh
citation if n	ot in conformance and not c	onsidered. In	clude copy of thi	s form with next comm	unication to	o applicant.	

	VILE Y		•			Sheet12	of _	13
Form PT((REV. 8-8		O.S. DEPARTME PATENT AND TO	ENT OF COMMERCE RADEMARK OFFICE	ATTY, DOCKET NO. 015685.P02	27	SERIAL NO. 09/	676,888	3
INFO	RMATION	SURE C	ITATION		raig H.	Barratt		
	(Use several sheets i	f necessar	Y)	FILING DATE 09/29/00		GROUP2	. 081 9(C 1
		U.S.	PATENT DO	CUMENTS		<u> </u>		2
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS		DATE OPRIATE
all	5,930,243	07/27/99	Parish et a	l.				
W	5,955,992	09/21/99	Shattil				Tech:	_
	5,970,394	10/19/99	Arpee et al	•		 	nology	
	5,973,638	10/26/99	Robbins et	: al.		 	y Center 2600	9 7
	5,999,826	12/07/99	Whinnett			_	er 26	3
	6,005,854	12/21/99	Xu et al.			_	0	
	6,009,124	12/28/99	Smith et al			_		
1	6,018,317	01/25/00	Dogan et a	l.				
	6,018,643	01/25/00	Golemon e	t al		1		
all	0,010,043	1	!				<u> </u>	
			r .	DOCUMENTS	I	T	TRANSL	ATION
	DOCUMENT NUMBER	DATE	. C	OUNTRY	CLASS	SUBCLASS	YES	NO
				·				
· · · · · · · · · · · · · · · · · · ·								
			<u> </u>					
	OTHER DOCUME	NTS (Inclu	ding Author,	Title, Date, Pertine	nt Page	s, Etc.)		
	·				:			
								
	1 11							
EXAMINI	ER /		DA	TE CONSIDERED	1/25/	105		\neg
*EXAMINE	R: Initial if citation considered to the conformance and not confo	ed, whether or	r not citation is in clude copy of thi	conformance with MP s form with next comm	EP 609; Dunication	Praw line through	ugh	

I)
П	1
Ž	2
Ī	3
1	
	Ċ

APPLICANT Craig H. Barratt FILING DATE GROUP GROUP		OIPE					Sheet13	of	13	
Craig H. Barratt	Form PTO- (REV. 8-83)	√ 2 32M → 1	PATENT AND TO	ENT OF COMMERCE RADEMARK OFFICE		27		676,888	3	
U.S. PATENT DOCUMENTS	INFOR	MARCHARICELO	SURE C	ITATION	(Craig H.	Barratt			
DOCUMENT NUMBER DATE NAME CLASS SUBCLASS FILING DATE PAPPROPRIATE	((Use several sheets	if necessary	y)			GROUP-	6812	67	
		U.S. PATENT DOCUMENTS								
6,061,553 05/09/00 Matsuoka et al.	*EXAMINER INITIAL	DOCUMENT NUMBER	DATE		NAME	CLASS	SUBCLASS			
6,064,865 05/16/00 Kuo et al.	01	6,023,203	02/08/00	Parish		_				
6,108,565 08/22/00 Scherzer		6,061,553	05/09/00	Matsuoka e	et al.					
FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		6,064,865	05/16/00	Kuo et al.	·	_	_			
FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		6,067,324	05/23/00	Harrison				Tech		
FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		6,108,565	08/22/00	Scherzer			_	nolog	PG PG	
FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		6,131,016	10/10/00	Greenstein	et al.	_		y Cer	29	
FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		6,154,661	11/28/00	Goldburg			_		200 •272	
FOREIGN PATENT. DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		6,185,412	02/06/01	Pentikalne	n et al.		_	,	8	
DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through	$\sqrt{}$	6,192,256	2/20/01	Whinnett			· ~			
DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through	<u> </u>						ļ		-	
DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through				<u> </u>		<u></u>	<u> </u>	<u> </u>	~	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER DATE CONSIDERED SL 32 SEXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through			T	 			Ţ	TRANSI	ATION	
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through	····	DOCUMENT NUMBER	DATE	C	OUNTRY	CLASS	SUBCLASS			
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through	•					ļ	-		<u></u>	
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		·					_			
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through				<u> </u>					<u> </u>	
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through	·.	OTHER DOCUME	NTS (Inclu	ding Author,	Title, Date, Pertine	ent Page:	s, Etc.)			
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through				_						
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through			_							
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		-								
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through		1 1				<u> </u>			<u>.</u>	
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through	EXAMINER			DA	TE CONSIDERED	_ /	9/100			
	*EXAMINER:	Initial if citation considered	ed, whether or	not citation is in	conformance with MP	EP 609; D	raw line throu	ıgh		

OIPE FB 26	AUT CO		aduction Act of	٠ ــــا	Patent and Trade required to respond to a collection of informa-	PTO/SB/06A (10-96) pproved for use through 10/31/99. OMB 0851-0031 mark Office: U.S. BEPARTMENT OF COMMERCE ation unless it displays a valid OMB control number.
CATEMIE IR	Supplier of four last to				Application Number Filling Date First Named Inventor Group Art Unit Examiner Name	09/676,888 REC VED September 29, 2000 Craig H. Barratt FFB 2 8 200:
	Sheet	1	of	2	Attorney Docket Number	Unassigned Technology Center 2600

Name

Initials	No.	Number	•		class	(if appropriate
24	I	5,553,074	09/03/96	Acampora	 	
1	2	5,697,066	12/09/97	Acampora	 	
	3	5,732,076	03/24/98	Ketseoglou et al.	 ~	1
	4	5,748,676	05/05/98	Mahany	 	
	5	5,774,461	06/30/98	Hyden et al.	_	
1	6	5,933,421	08/03/99	Alamouti et al.	-	
-	7	6,018,555	01/25/00	Mahany	_	
1	-					
					 	

Document

FOREIGN PATENT DOCUMENTS

Exam. Initials	Cite No.	Document Number	Date	Country	Class	Sub- class	Trans Yes	ation No
al	8	WO 98/28864	02/Jul/98	-				
V	9	WO 98/33346	30/Jul/98					
						<u> </u>		
			//					
Examine Signatur			lu	Date Considered	02/29	105	_	

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

FEB 2 6 2007 RS lease type a phistign (+) inside this box — +

PTO/SB/06A (10-96)
Approved for use through 10/31/99, OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Subsulus for form 1445APTO
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

Complete if Known

Application Number 09/676,888

Filing Date September 29, 2000 FEB

First Named Inventor Craig H. Barratt

Group Art Unit 2681 / C Technolog

Attorney Docket Number 15685P027

8 2 8 2001 9 Center 2600

Sheet 2 of 2

OTHER ART (Including Title, Author, Date, Pertinent Pages, etc.)

Exam. Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
owl	10	Zhang et al., "Performance of a Modified Polling Strategy for Broadband Wireless LANs in a Harsh Fading Environment," GLOBECOM '91, January 1991, pp. 1141-1146.
1	11	Acampora et al., "A New Adaptive MAC Layer Protocol for Wireless ATM Networks in Harsh Fading and Interference Environments," 1997 IEEE, August 1997, pp. 410-415.
	12	Krishnamurthy et al., "Polling Based Media Access Protocols for Use With Smart Adaptive Array Antennas," 1998 IEEE, January 1998, pp. 337-344.
V	13	Xu et al., "Throughput Multiplication of Wireless LANs for Multimedia Services: SDMA Protocol Design," 1994 IEEE, 1994, pp. 1326-1332.
		·
Examine		Date Considered Of 25 C

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

2

Sheet of 1

Complete if Known							
Application Number U9/676,888							
Filing Date	September 29, 2000						
First Named Inventor	Craig H. Barratt						
Art Unit	2681 2667						
Examiner Name	Not Yet Assigned						
Attorney Docket Number	15685P027						

OL/ 22/65

			U.S. PAT	ENT DOCUMENTS	
Examiner Initials*	Cite No.'	Document Number Number - Kind Code ^a (if known)	Publication Date or Issue Date	Name of Patentee or Applicant of Cited Document	Pages, Cotumns, Lines, Where Relevant Passages or Relevant Figures Appear
2.1	110.	US-5615409		Forssen et al.	· · · · · · · · · · · · · · · · · · ·
aul	<u> </u>	US-	03-23-1997	1 otssen et al.	
<u> </u>		US-			
		US-	<u> </u>		
	_	US-			
	-	US-		•	
	<u> </u>	US-			
		US-			RECEIVED FEB 2 4 2003 Technology Center 26
	·	US-			HEOLIVED
		US-			9 A 2003
	-	US-			LFR % TOWN
		US-			Landony Center 26
		US-			Meculiology comme
		US-			
		US-			·
		US-			
	1	US-	l		1

 Cite	Foreign Patent Document			Pages, Columns, Lines,	Γ
No.'	Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear	۳
			· · · · · · · · · · · · · · · · · · ·		L
 					H
		•			
					L
					-
 					H
	Δ				
	<i>V //</i>			<u> </u>	İ

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

'Applicant's unique citation designation number (optional). *See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. *Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). *For Japanese patent documents, the Indication of the year of reign of the Emperor must precede the serial number of the patent document. *Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. *Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0551-0031
Palent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known Application Number 09/676,888 September 29, 2000 Filing Date Craig H. Barratt First Named Inventor 2667 Art Unit 268T Not Yet Assigned Anh-W

Examiner Name 2 Attorney Docket Number 2 of Sheet 15685P027

		OTHER ART - NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.'	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Ţż	
	2	European Examination Report dated 10/18/02		1
aul				
		RECEIVE FEB 2 4 2	/F!	h
		MEOLI	L	
	ļ	FEB 2 4 2	003	
		** haday Ce	nter '	260
		16cmous) oo		
	 		-	
	<u> </u>		 	
<u></u>	 			
	ļ		<u> </u>	l
	 			
Evamina		Date 1		!
Examine Signatur		Considered 78/99/6		

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

^{&#}x27;Applicant's unique citation designation number. 'Applicant is to place a check mark here if English tanguage Translation is attached.

	JC10 3	Substitute for form 1449A/PTO				Complete if Known			
/&/	,				001105	Application Number	09/676,888		
Q	6	3 \	RMATION DISCL			Filing Date	September 29, 2000		
_	2	TATE!	ATEMENT BY APPLICANT			First Named Inventor	Craig H. Barratt		
)	V 0	<i>!</i> \$1	(use as many sheets			Art Unit	2681 2GC 7		
	-			100.0000	1	Examiner Name	Net Yet Assigned Anh-W		
\	PATENT	Sheet	1	of	1	Attorney Docket Number	15685P027		

			U	S. PATE	NT DC	CUMENTS		
Examiner Initiats*	Cite No.1	Document Number Number - Kind Code* (if known)	or is	ation Date sue Date DD-YYYY		Name of Patentee or Applicant of Cited Document		ages, Columns, Lines, Where elevant Passages or Relevant Figures Appear
01	1	US-5574977	11-1	2-1997	Josep	h et al.		
-	2	US-5619503	04-0	8-1997	Dent			
\neg	3	US-5625880	04-2	9-1997	Gold	burg et al.		
	4	US-5642353	06-2	4-1997	Roy	III et al.		HECEIVER
	5	US-5684794	11-0	4-1997	Lope	z et al.		JUN 0.3 2003
	6	US-5708971	01-1	3-1998	Dent			JOH O'S TOOS
	7	US-5870393	02-0	9-1999	Yano	et al.	Τ,	echnology Center 2
	8	US-5884178	03-1	6-1999	Erics	son et al.	1	Schilology Comme
	9	US-6037898	03-1	4-2000	Paris	h et al.		
丁	10	US-6141567	10-3	1-2000	Yous	sefmir et al.		-
_	11	US-6219561	04-1	7-2001	Ralei	gh	1	
1	12	US-6292664	09-1	8-2001	Ostru	p et al.		
V	13	US-6337985	01-0	8-2002	Roux			
		US-						
		US-						
		US-						
		US-					1	
		US-						
		US-						
		US-						
		<u> </u>	FOF	REIGN F	PATEN	T DOCUMENTS		
	T	Foreign Patent Document		1		T	$\overline{}$	Pages, Columns, Lines,
caminer Initials*	Cite No.'	Country Code* - Number* - Kind Code* (#	known)	Publication MM-DD	on Date -YYYY	Name of Patentee or Applicant of Cited Document		Pages, Columns, Lines, Vhere Relevant Passages r Relevant Figures Appear
21	14	EP 0 841 827 A2		05-13-	1998			
							_	
	1							
·	- 1			/		Date		7
Examin Signatu		/Wha	/	-		Considered 02/	22/	0(

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

'Appticant's unique citation designation number (optional). 'See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 'Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 'Applicant is to place a check mark here Il English language Translation is attached.

Based on PTO/SB/08A (05-03) as modified by Blakely, Solokoff, Taylor & Zalman (w/r) 05/02/2003.

STATEMENT BY APR

Sheet

(use as many sheets as necessa

of

Filing Date

Group Art Unit

Examiner Name

First Named Inventor

Attorney Docket Number

September 29, 2000 Craig H. Barratt

2681 266 7

15685P027

Not Yet Assigned

1				U.S. PATENT DOCUMENTS		
Examiner	Cite	U.S. Patent		Name of Patentee or Applicant	Date of Publication of Cited Document	Pages, Cohimns, Lines, Where Relevant Passages or Relevant Figures Aspear
initials*	No.'	Number	Kind Code ^a (if known)	of Cited Document	MM-DD-YYYY	Passages or Relevant
aul	1	6,122,260		Liu et al.	09-19-2000	1 8
						\
		-				
						
	_					
		ļ				
		 				
					·	

				FORI	IGN PATENT DOCUMENT	TS		
Examiner Initials*	Cite No.'	Office ^a	Number	Mind Code ^s (il known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	۳
		ll						
•								
	<u> </u>							
			1		1			
[_ ·			4 / //					
Examine Signatur			Lill	M	Date Considered	02/32	105	
•							/	

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

'Unique citation designation number. *See attached Kinds of U.S. Patent Documents. *Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. "Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. "Applicant is to place a check mark here if English language Translation is attached.

OPE	<u>></u>
MAY 2 4 200	
渔	§ IN
TRANSON	

bstitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of

1

	Complete If Known
Application Number	09/676,888
Filing Date	September 29, 2000
First Named Inventor	Craig H. Barratt
Art Unit	2681 2667
Examiner Name	Not Yet Assigned Ach-W
Attorney Docket Number	15685P027

			U.S. PATE	NT DOCUMENTS	
Examiner Initials*	Cite No.	Document Number Number - Kind Code ^a (il known)	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
aul	1	US-6,141,567	10-31-2000	Youssefmir et al.	`
	2	US-6,470,195 B1	10-22-2002	Meyer	
\overline{V}	3	US-6,615,024 B1	09-02-2003	Boros et al.	
		US-		R	CEIVED
		US-			
		US-		N	AY 2 7 2004
		US-			
		US-		Techr	ology Center 2600
		US-			
		US-	_		
		US-			
		US-	•		
		US-			

		FOR	EIGN PATENT	DOCUMENTS		
Examiner	Cite	Foreign Patent Document			Pages, Columns, Lines,	₩.
Initials*	No.'	Country Code* - Number* - Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear	
		·				╀
	<u> </u>					╀
	_					╁
	\vdash					T
	<u> </u>					Ι
				· · · · · · · · · · · · · · · · · · ·		Ļ
						╀
	<u> </u>					╁
	<u> </u>					
Examir Signati		Alla		Date Considered	192/05	

^{*}Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

'Applicant's unique citation designation number (optional). "See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. "Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). "For Japanese patent documents, the Indication of the year of reign of the Emperor must precede the serial number of the patent document. "Mind of document by the appropriate symbols as Indicated on the document under WIPO Standard ST. 16 if possible. "Applicant is to place a check mark here if English language Translation is attached.

Based on PTO/SB/08A (08-03) as modified by Blakely, Solokoff, Taylor & Zafman (wir) 08/11/2003.

Send To: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Approved f Trademark Of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

	Substitute fo	r form 1449A/PTO			Co	mplete if Known	
MID		MATION		CHDE	Application Number	09/676,888	
′	SINFOR	IVIATION	DISCEO	SURE	Filing Date	September 29, 2000	
Muy ne I	<u>"</u> ŠTATE	MENT BY	APPLI	CANT	First Named Inventor	Craig H. Barratt	
ו מי וואי	W &	ise as many sheet	e se nocoses:	v)	Group Art Unit	2681 266	
4	<i>[4]</i>		3 33 110003041	**	Examiner Name	Not Yet Assigned	L
A BADON	Speet	1	of	1	Attorney Docket Number	15685P027	

					<u> </u>		
					U.S. PATENT DOCUMENTS		
Exar	miner	Cite	U.S. Patent		Name of Patentee or Applicant	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant
Init	ials*	No.'	Number	Kind Code ² (if known)	of Cited Document	MM-DD-YYYY	Passages or Relevant Figures Appear
a	7	1	5,812,090	•	Chevalier et al.	09-22-1998	
					·		RECEIVED
							MAY 0 8 2002
						To	chnology Center 2600
						16	Chilology Certler 2000
							•
							·
			ļ				
			 				
<u> </u>			1				

Examiner Initials*	Cite	`L	Foreign Patent Doc		Name of Patentee or	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
	No.'	Office	Number*	Kind Codes (if known)	Applicant of Cited Document	MM-DD-YYYY		1
カリ	2	EP	0 665 665	Al	Chevalier et al.	08-02-1995		1
								\dagger
								T
		-						+
	 	+						
								\perp
		-						+
	<u> </u>	-		1 ///	Date	· · · · · · · · · · · · · · · · · · ·		

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

'Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

۴.

Under the Paperwork Reduction

Approved I Patent and Trademark Of is are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for	form 1449A/PTO	MAR (1 2002 S	Co	omplete if Known
INFOR	MATION I	ט וקפונ	SUDE A	Application Number	09/676,888
		10.	.0.	Filing Date	September 29, 2000
STATE	MENT BY	APRIMO	AND [®]	First Named Inventor	Craig H. Barratt
	se as many sheet			Group Art Unit	2681 2667
		7	<u> </u>	Examiner Name	Not Yet Assigned Anh-V
Sheet	1	of	2	Attorney Docket Number	15685P027

				U.S. PATENT DOCUMENTS			
Examiner !	Cite	Cite No.'	U.S. Pate Number	nt Document Kind Code ^s	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant
	170.		(if known)		MINICOSTTT	Figures Appear	
		<u> </u>					
							
				COPY OF PAPERS			
		İ		COPY OF PAPERS ORIGINALLY FILED			
			-	· .			
							
						SENTED	
					RE	CEIVE	
						201 1 2002	
					N	1AM 2600	
						mology Center	
					780	CEIVED Mology Center 2600	
				· · · · · · · · · · · · · · · · · · ·	 		
		 					

Examiner Initials	Cite	Fore	ign Patent Docum	nent	Name of Patentee or	Date of Publication of	Pages, Columns, Lines,	Τ.
	No.'	Office	Number*	Kind Code ^t (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	
W	1	W	97/08849		WIPO			\mp
		 -					,.,.,	+
								1
								+
<u> </u>	i	 -		+				t
								I
		 		1				+
			- 	/ /X				

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through cilation if not in conformance and not considered. Include copy of this form with next communication.

'Unique citation designation number. *See attached Kinds of U.S. Patent Documents. *Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

,	OIPE
Please type a plus sign (+) inside this box + + Under the Paperwork Reduction Act of 1	MAR 0 1 2002 Pater 1995. Repersons are required to respond to a collection
Substitute for form 1449A/PTO	MANA Application Number

PTO/SB/08B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
Patient and Trademark Office: U.S. DEPARTMENT OF COMMERCE

1115001					
	FATION		יייי	Application Number	09/676,888
INFURIV	MITON	DISCLOS	OHE	Filing Date	September 29, 2000
STATEMENT BY APPLICANT				First Named Inventor	Craig H. Barratt
• • • • • • • • • • • • • • • • • • • •				Group Art Unit	2681 266 7
				Examiner Name	Not Yet Assigned Aph-
Sheet	2	of	2	Attorney Docket Number	15685P027

		OTHER ART - NON PATENT LITERATURE DOCUMENTS	of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, nal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. "Array Processing for Wireless Communications," Proc. 8th IEEE Signal orkshop on Statistical Signal and Array Proc., June 1996, Pgs. 466-473. **OPY OF PAPERS ORIGINALLY FILED** **RECEIVED** **RECEIVED**			
Examiner Initials*	Cite No.'	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²			
	1	Ottersten, B., "Array Processing for Wireless Communications," Proc. 8th IEEE Signal	1			
aul	<u> </u>	Processing Workshop on Statistical Signal and Array Proc., June 1996, Pgs. 466-473.	┼			
		·				
· · · · · · · · · · · · · · · · · · ·	<u> </u>	UORY OF PAPERS	↓			
		ORIGINALLY FILED				
	 		+			
ļ	<u> </u>		-			
	 		+			
		RECEIVED				
		MAR 1 1 2002	1			
	 	- Ladary Center 2600				
		Technology Center 2600				
		·				
	-		+			
	ļ		┦			
		1 //				
	<u></u>		<u></u>			
Examine: Signature		Date Considered 02/22/05				

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

'Unique citation designation number. 'Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08A (08-00)

Approved 19-35e through 10/31/2002. OM9 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

stitute for form 1449A/PTO

Signature

ÎNFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

2

Sheet of 1

Complete if Known					
Application Number	09/676,888				
Filing Date	September 29, 2000				
First Named Inventor	Craig H. Barratt				
Group Art Unit	2681 266 7				
Examiner Name	Not Yet Assigned An-Vu				
Attorney Docket Number	15685P027				

				U.S. PATENT DOCUMENTS		
Examiner Initials*	Cite	U.S. Pater	Nind Code*	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Cotumns, Lines, Where Relevant Passages or Relevant
			(il known)			Figures Appear
						RECEIVED
						RECEIVED MAR 1 5 2002 Technology Center 26
						IBOILLO

	FOREIGN PATENT DOCUMENTS											
Examiner Initials*	Cite		Foreign Patent Docum	nent	Name of Patentee or	Date of Publication of	Pages, Columns, Lines,					
	No.1	Office*	Number	Kind Code* (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T				
au	l l		WO 97/02262		WIPO	07-25-1996						
								\perp				
			·-··									
	1											
	<u></u>											
		\top										
			1 0					Τ				
			<i>X</i>									
Examine	er		1 11		Date			-				

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

Considered

'Unique citation designation number. 'See attached Kinds of U.S. Patent Documents. 'Enter Office that issued the document, by the two-letter code (WIPO Standard S.3). *For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. *Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. *Applicant is to place a check mark here if English language Translation is attached.

se poe a prus sign (+) inside this box

PTO/SB/08B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of Information unless it displays a valid OMB control number.

Substitute for form 1449APTO

WFORMATION DISCLOSURE

STATEMENT BY APPLICANT

Application Number
O9/676,888
Filing Date
September 29, 2000
First Named Inventor
Group Art Unit
Examiner Name
Not Yet Assigned Anh-V

Sheet 2 of 2 Attorney Docket Number 15685P027

Ly

	_	OTHER ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T*
aul	I	Farsakh et al., "A REAL TIME DOWNLINK CHANNEL ALLOCATION SCHEME FOR AN SDMA MOBILE RADIO SYSTEM," IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, Vol. 3, 10/18/96, pgs. 1215-1220.	
	2	Farsakh et al., "CHANNEL ALLOCATION AND DOWNLINK BEAMFORMING IN AN SDMA MOBILE RADIO SYSTEM," PIMRC '95, Wireless: Merging onto the Information Superhighway, 6th IEEE International Symposium on Toronto, Ont., Canada, 9/27-29/95, pgs. 687-691.	
V	3	Gerlach et al., "BASE STATION TRANSMITTER ANTENNA ARRAYS WITH MOBILE TO BASE FEEDBACK," IEEE Asilomar Conference on Signals, Systems & Computers, 1993, pgs. 1432-1436.	
		RECEIVER)2
		MAR 1 3 L	ar 26
		MAR 1 5 20 Technology Cent	, SI - 1
Examiner Signature	1	Date Considered 21/99/G	

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP/609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

'Unique citation designation number. 'Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/06A (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

o Substitute for	form 1449A/PTO			Co	mplete if Known
121			SUDE	Application Number	09/676,888
Tr.1	MATION I			Filing Date	September 29, 2000
& STATE	MENT BY	'APPLIC	CANT	First Named Inventor	Craig H. Barratt
				Group Art Unit	2681 2667
				Examiner Name	Unassigned Alachi Ly
Sheet	1.	of	1	Attorney Docket Number	15685P027

U.S. PATENT DOCUMENTS

Exam. Initials	Cite No.	Document Number	Date	Name	Class	Sub- class	Filing Date (if appropriate)
au	1	5,276,907	01/04/94	Meidan			
			•				
						<u> </u>	PRECEDO COMO COMO COMO COMO COMO COMO COMO CO
						Chnoi	9, 4
						_	Comercia
							000
						 	

FOREIGN PATENT DOCUMENTS

Exam. Initials	Cite No.	Document Number	Date	Country	Class	Sub- class	Transl Yes	atior No
au	1	EP0786914A2	30/Jul/97	Europe				
							· ·	
		A A						

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication